



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/653,791	09/02/2003	Akio Ohba	81617 [SC-70003US]	6922

22242 7590 03/16/2007
FITCH EVEN TABIN AND FLANNERY
120 SOUTH LA SALLE STREET
SUITE 1600
CHICAGO, IL 60603-3406

EXAMINER

REPKO, JASON MICHAEL

ART UNIT	PAPER NUMBER
----------	--------------

2628

MAIL DATE	DELIVERY MODE
-----------	---------------

03/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

Interview Summary	Application No.	Applicant(s)	
	10/653,791	OHBA, AKIO	
	Examiner	Art Unit	
	Jason M. Repko	2628	

All participants (applicant, applicant's representative, PTO personnel):

(1) Jason M. Repko. (3) _____

(2) Richard Warzyniak (36,048). (4) _____

Date of Interview: 09 March 2007.

Type: a) ☒ Telephonic b) ☐ Video Conference
c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☒ No.
If Yes, brief description: _____

Claim(s) discussed: 1-6 and 9-29.

Identification of prior art discussed: Foran.

Agreement with respect to the claims f) ☐ was reached. g) ☐ was not reached. h) ☒ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: The outstanding rejections under 35 USC 112, 1st paragraph and 35 USC 101 were discussed. The Foran reference was discussed with respect to the outstanding prior art rejection. The Examiner suggested further clarifying the subspace limitation in claim 1. No agreement was reached with respect to allowable subject matter.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.


 ULKA CHAUHAN
 SUPERVISORY PATENT EXAMINER

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Applicant Initiated Interview Request Form

Application No.: 10/653,791 First Named Applicant: Ohba, Akio
 Examiner: REPKO, Jason Art Unit: 2628 Status of Application: Non-Final Rejection

Tentative Participants:

(1) Examiner Repko (2) Richard Wawrzyniak, Tel. 858-587-7641
 (3) _____ (4) _____

Proposed Date of Interview: TBD Proposed Time: TBD (AM/PM)

Type of Interview Requested:

(1) ☒ Telephonic (2) ☐ Personal (3) ☐ Video Conference

Exhibit To Be Shown or Demonstrated: ☐ YES ☒ NO

If yes, provide brief description: _____

Issues To Be Discussed

Issues (Rej., Obj., etc)	Claims/ Fig. #s	Prior Art	Discussed	Agreed	Not Agreed
(1) Rej.	1-6 and 9-29	Foran	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(2) Rej.	20-27 1-7, 9-18, 25-	Lengyel et al.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(3) Rej.	27, 31-34 21-24	§112, first paragraph §101	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(4) _____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Continuation Sheet Attached					

Brief Description of Arguments to be Presented:

See Attached. (2 sheets)

An interview was conducted on the above-identified application on _____.

NOTE: This form should be completed by applicant and submitted to the examiner in advance of the interview (see MPEP § 713.01).

This application will not be delayed from issue because of applicant's failure to submit a written record of this interview. Therefore, applicant is advised to file a statement of the substance of this interview (37 CFR 1.133(b)) as soon as possible.

Richard E. Wawrzyniak 3/5/07

Applicant/Applicant's Representative Signature

Richard E. Wawrzyniak

Typed/Printed Name of Applicant or Representative

36,048

Registration Number, if applicable

Examiner/SPE Signature

This collection of information is required by 37 CFR 1.133. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 21 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

BRIEF DESCRIPTION OF
ARGUMENTS TO BE PRESENTED
in Examiner Telephone Interview for
U.S. App. No. 10/653,791
Attorney Docket No. 81617 [SC-70003US]

I. Applicant asserts that Foran does not disclose subspaces being allowed to spatially overlap one another.

Applicant's claim 1 includes the limitation "the grouping unit groups the three-dimensional objects into groups in such a manner that the three-dimensional subspaces, each of which contains at least one three dimensional object belonging to the same group, are allowed to spatially overlap one another".

In Paragraph 12 of latest Office Action, Examiner stated that: "Foran does not use the language allowing subspaces to spatially overlap; however one of ordinary skill in the art would recognize that this feature is present as Foran discloses in paragraph [0040] that primitives that 'span the boundary between subvolumes are assigned to each subvolume' and 'Where parts of a graphics primitive exceed the boundaries of a subvolume, the GPU will clip that graphics primitive to the boundaries of the subvolume.'"

Applicant asserts that paragraph [0040] of Foran merely states that if a primitive spans the boundary between subvolumes, then the primitive is assigned to each subvolume in which the primitive lies. When a GPU is assigned to each subvolume to render the graphics data that lie within the boundaries of the subvolume, if parts of the primitive exceed the boundaries of the subvolume, the GPU clips the primitive to the boundaries of the subvolume. As such, Applicant asserts that the description in the paragraph [0040] does not disclose nor suggest the concept of allowing subspaces to spatially overlap.

In the same paragraph, Foran discloses that "the dimensions of the scene are bounded by a rectangular volume as shown in FIG. 2. Next, this volume is decomposed into rectangular subvolumes as shown in FIG. 3 such that each subvolume includes a portion of the overall scene." In Foran, the rectangular volume of FIG. 2 is decomposed into rectangular subvolumes as shown in FIG. 3. According to the description of Foran, the volume is decomposed into a set of mutually disjoint subvolumes that have no space in common. Therefore, the subvolumes never overlap spatially. There is neither disclosure nor suggestion in Foran about allowing subvolumes to spatially overlap.

The Examiner further explains his viewpoint in Paragraph 12 of latest Office Action, stating that: "Since a primitive can be assigned more than one subspace and primitives assigned to a subspace exceed the boundaries of the subvolume, while Foran does not expressly disclose the subvolumes overlap, the subspaces, the 'portion of the overall scene' assigned to each rendering unit, must spatially overlap."

Applicant respectfully disagrees with this analysis. Even though a primitive may be assigned more than one subspace and the primitive assigned to a subspace exceed the boundaries of the subvolume, the subspaces do not have to spatially overlap. Applicant asserts that the concept of “the primitive exceeding the boundaries of the subvolume” has nothing to do with “the subvolumes overlapping spatially with each other”. In Foran, the subvolumes do not have to spatially overlap with each other.

On the contrary, Foran discloses in paragraph [0045] that “the rendered graphics data from each GPU are ordered. . . . Ordering is determined by comparing the viewing position with the positions of each of the subvolumes. At a step 512, the outputs of the individuals GPUs are combined by blending. Image blending accounts for the spatial relationships between the viewing position and the rendered images so that objects that are more near the viewing position overwrite those that are more distant.” According to the paragraph [0045], after each subvolume is rendered by each GPU, the rendered data are ordered by comparing the viewing position with the positions of each of the subvolumes. Then the rendered data are blended in order of the distance from far to near so that objects near the viewing position overwrite those that are more distant. Apparently, in Foran, the rendered data for the respective subvolumes must be ordered in the depth direction. Foran does NOT consider any situation in which the subvolumes may overlap spatially in the depth direction. If such a situation occurs, the rendered data for the respective subvolumes cannot be sorted by the positions of the subvolumes in the depth direction and the rendered data for the subvolumes cannot be overwritten in the depth order. As such, Foran excludes such a situation that subvolumes are allowed to spatially overlap.

In sum, Foran assumes the condition in which the rendered data for the subvolumes can be sorted in the depth order and overwritten in the buffer in the order of the distance from the viewing position from far to near. In Foran, therefore, the subvolumes MUST NOT spatially overlap in the depth direction, contrary to Examiner's view. As such, Foran does not teach the invention recited in Applicant's claim 1. Furthermore, Foran also does not teach the invention recited in Applicant's claims 17-21 and their dependent claims for similar reasons.

II. Regarding Paragraph 3 of latest Office Action stating that the claims does not reasonably provide enablement for hardware units, the specification of the present invention discloses a graphics processor in full detail, as shown in FIGS. 6 to 8. Applicant asserts that the description of the specification is sufficient to satisfy the enablement requirement.

III. Applicant has a question regarding Paragraphs 5 and 6 of latest Office Action regarding the non-statutory subject matter.